

REMARKS

Claims 1 and 2 are pending. By this Amendment, claims 1 and 2 are amended and claim 3 is canceled. The specification is also amended as suggested by the Office Action.

The Office Action indicates that the two non-patent references 1 and 2 filed in the February 25, 2004 Information Disclosure Statement have not been considered because there is no explanation of the relevance. However, the first non-patent reference 1 was discussed on page 1, lines 13-19 of the specification. Thus, Applicants respectfully request consideration of the first non-patent reference 1 document. The second non-patent reference document may now be considered because an English-language translation of the Japanese-language document is now provided, as attached, and Applicants respectfully request consideration of the non-patent reference 2. In view of the above, Applicants respectfully request initial PTO-Form 1449 indicating considerations of both the non-patent references 1 and 2 submitted in the February 25, 2004 Information Disclosure Statement.

The Office Action objects to the drawings indicating that the subject matter recited in claim 3 was not illustrated. Claim 3 is now canceled. Withdrawal of the rejection to the drawings is respectfully solicited.

The Office Action objects to the specification. The specification is amended to obviate this objection. Withdrawal of the objection to the specification is respectfully solicited.

The Office Action objects to claims 1-3 and rejects claims 1-3 under 35 U.S.C. §112, second paragraph. Claims 1 and 2 are amended to obviate this rejection and claim 3 is canceled. However, regarding the word "narrows" recited in claim 2, the Office Action is respectfully traversed.

In particular, the subject of the verb "narrows" is the element distinguishing data altering means, which in standard patent parlance, indicate one or more of the recited structure similar to the article "a," and not two or more structures. Thus, the "singular" form of the verb is used for

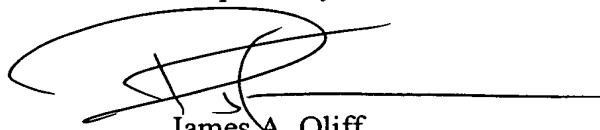
consistent grammar. Accordingly, withdrawal of the objection and rejection of claims 1-3 under 35 U.S.C. §112, second paragraph, is respectfully solicited.

Applicants appreciate the Office Action indicating that claims 1-3 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. §112, second paragraph. As indicated above, claims 1 and 2 are so amended and claim 3 is canceled. Thus, claims 1 and 2 are placed in condition for allowance.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of claims 1 and 2 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:
English-language translation of non-patent reference 2

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(2) Correlation processing method

The following shows a method of detecting four types of unique words.

Fig. 4.3 1-3 is a correlator, which detects unique words.

Vector signals shown by I and Q are input as differential phase data. This input is delayed by blocks shown by "D" according to a clock. Meanwhile, 16 reference data corresponding to unique words are stored in memories shown by "S". According to this reference data, differential phases of unique words inversely rotate vectors so that differential phases become the actual axes (phase: zero degree). When an input symbol string is equal to a unique word, phases of the inversely rotated vectors all become zero degree.

Input
→

See the original for the diagram.

D Delay When an inner product is taken, the conjugate portion obtains a positive output.

S Reference data

⊙ Inner product

⊕ Addition

⊗ Rotation

See the original.

In case of S1, maximum correlation output = 15

In case of S1*, maximum correlation output = 14

Threshold
9<TH<15



Reception detected

Fig. 4.3 1-3 UNIQUE WORD DETECTING METHOD

When a conjugate signal of a second symbol and after is input to this correlator, rotated phases of vectors all become 180 degrees on actual axes. In this case as well, inner product results all become positive, and a correlation peak is detected. However, the first one symbol is different, so the correlation level becomes low for one symbol. Because of this processing, synchronization is established, and reception processing can begin.

As a result of reception processing, a content of the unique word can be understood at the bit unit. At this stage, a bit correlation is made with respect to a conjugate unique word. If this correlation output is equal to or greater than a threshold, it is determined as a conjugate unique word. If this correlation output is less than a threshold, it is determined as a normal unique word.